

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (currently amended) A method for the elimination of
2 spurious signal components in an input signal, said method
3 comprising the steps of:
4 - the characterization, in a signal analysis phase, of
5 signal components of the spurious signal components
6 and of an information signal contained in the input
7 signal, and
8 - the determination or generation, in a signal processing
9 phase, of the information signal or an estimated
10 information signal on the basis of the
11 characterization obtained in the signal analysis
12 phase, wherein
13 said characterization of the signal components are
14 performed under utilization at least of auditory-
15 based features determined in the signal analysis
16 phase, employing a primitive-grouping method
17 including the step of breaking down said signal into
18 a plurality of analyses related to particular
19 frequency regions of an acoustic spectrum of said
20 signal at particular moments in time.

1 2. (previously presented) The method as in claim 1,
2 wherein at least one of the following auditory features are
3 used for the characterization of the signal components :
4 loudness, spectral profile, harmonic structure, common build-
5 up and decay times, coherent amplitude and frequency
6 modulation, coherent phases, interaural runtime and level
7 differences.

1 3. (previously presented) The method as in claim 1,

2 wherein the auditory features are determined in a plurality of
3 frequency bands that are different from each other.

1 4. (canceled).

1 5. (previously presented) The method as in claim 1,
2 wherein the characterization of the signal components is
3 performed by evaluating the features determined in the signal
4 analysis phase, employing a scheme-based grouping technique.

1 6. (previously presented) The method as in claim 5,
2 wherein a hypothesis is established or specified on the nature
3 of the signal component and is taken into account in the
4 grouping of the identified features .

1 7. (previously presented) The method as in claim 5 or 6,
2 wherein for the characterization of the signal components, at
3 least the auditory features are grouped along the principles
4 of a gestalt theory.

1 8. (currently amended) The method as in claim 1, wherein
2 the signal components identified as spurious noise components
3 are suppressed and/or the signal components identified as
4 information signals } or estimated information signals are
5 amplified.

1 9. (previously presented) The method as in claim 1,
2 wherein the information signal or an estimated information
3 signal is synthesized in the signal processing phase on the
4 basis of the features detected in the signal analysis phase .

1 10. (previously presented) The method as in claim 1,
2 wherein with the aid of an analysis of the harmonic structure
3 in the signal analysis phase, different base frequencies of

4 the signal component of the information signal or of the
5 estimated information signal are extracted and, with the aid
6 especially of a loudness or LPC analysis, spectral levels of
7 harmonics of these signal components are defined, and on the
8 basis of the spectral levels and the harmonics an information
9 signal for tonal speech components is synthesized.

1 11. (previously presented) The method as in claim 1,
2 wherein with the aid of an analysis of the harmonic structure
3 in the signal analysis phase, nontonal signal components of
4 the information signal or of the estimated information signal
5 are extracted and, with the aid especially of a loudness or
6 LPC analysis, spectral levels of these signal components are
7 defined, and with the aid of a noise generator an information
8 signal for nontonal speech components is synthesized.

1 12. (previously presented) The method as in claim 10 or
2 11, wherein the information signal and/or the estimated
3 information signal is amplified.

1 13. (previously presented) Application of the method
2 according to claim 1 for operating a hearing aid.

1 14. (currently amended) Hearing ~~air~~ aid operating by the
2 method according to claim 1.

1 15. (currently amended) A method for the elimination of
2 spurious signal components in an input signal, said method
3 comprising the steps of:

4 - the characterization, in a signal analysis phase, of
5 signal components of the spurious signal components
6 and of an information signal contained in the input
7 signal, and

8 - the determination or generation, in a signal processing
9 phase, of the information signal or an estimated
10 information signal on the basis of the
11 characterization obtained in the signal analysis
12 phase, wherein
13 said characterization of the signal components is
14 performed under utilization of at least auditory-
15 based features determined in the signal analysis
16 phase by employing a scheme-based grouping technique
17 including the step of regrouping a primitive
18 grouping according to one or more classes of sound
19 sources.

1 16. (previously presented) The method as in claim 15,
2 wherein the characterization of the signal components is
3 performed by evaluating the auditory-based features determined
4 in the signal analysis phase, employing a primitive-grouping
5 method.

1 17. (previously presented) The method as in claim 16,
2 wherein a hypothesis is established or specified on the nature
3 of the signal component and is taken into account in the
4 grouping of the identified auditory-based features.

1 18. (previously presented) The method as in claim 16 or
2 17, wherein for the characterization of the signal components,
3 at least the auditory-based features are grouped along the
4 principles of a gestalt theory.

1 19. (previously presented) The method as in claim 15,
2 wherein the signal components identified as spurious noise
3 components are suppressed and/or the signal components
4 identified as information signals or estimated information
5 signals are amplified.

1 20. (previously presented) The method as in claim 15,
2 wherein the information signal or an estimated information
3 signal is synthesized in the signal processing phase on the
4 basis of the features detected in the signal analysis phase.

1 21. (previously presented) The method as in claim 15,
2 wherein with the aid of an analysis of the harmonic structure
3 in the signal analysis phase, different base frequencies of
4 the signal component of the information signal or of the
5 estimated information signal are extracted and, with the aid
6 especially of a loudness or LPC analysis, spectral levels of
7 harmonics of these signal components are defined, and on the
8 basis of the spectral levels and the harmonics an information
9 signal for tonal speech components is synthesized.

1 22. (previously presented) The method as in claim 15,
2 wherein with the aid of an analysis of the harmonic structure
3 in the signal analysis phase, nontonal signal components of
4 the information signal or of the estimated information signal
5 are extracted and, with the aid especially of a loudness or
6 LPC analysis, spectral levels of these signal components are
7 defined, and with the aid of a noise generator an information
8 signal for nontonal speech components is synthesized.

1 23. (previously presented) The method as in claim 21 or
2 22, wherein the information signal and/or the estimated
3 information signal is amplified.

1 24. (previously presented) The method as in claim 15,
2 wherein at least one of the following auditory features are
3 used for the characterization of the signal components:
4 loudness, spectral profile, harmonic structure, common build-
5 up and decay times, coherent amplitude and frequency

6 modulation, coherent phases, interaural runtime and level
7 differences.

1 25. (previously presented) The method as in claim 15,
2 wherein the auditory features are determined in a plurality of
3 frequency bands that are different from each other.

1 26. (previously presented) An application of the method
2 according to claim 15 for operating a hearing aid.

1 27. (currently amended) A hearing ~~aid~~ aid operating by
2 the method according to claim 15.

1 28. (previously presented) A method for the elimination
2 of spurious signal components in an input signal, said method
3 comprising the steps of:

- 4 - the characterization, in a signal analysis phase, of
5 signal components of the spurious signal components
6 and of an information signal contained in the input
7 signal, and
- 8 - the determination or generation, in a signal processing
9 phase, of the information signal or an estimated
10 information signal on the basis of the
11 characterization obtained in the signal analysis
12 phase, wherein
13 said characterization of the signal components is
14 performed under utilization of at least auditory-
15 based features determined in the signal analysis
16 phase to separate speech signals from non-speech
17 signals in the signal processing phase.

1 29. (previously presented) An application of the method
2 according to claim 28 for operating a hearing aid.

1 30. (currently amended) A hearing ~~air~~ aid operating by
2 the method according to claim 28.